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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/254,474 | 03/05/1999 | HIDEICHI NITTA | 1422-371P | 7077 |

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| EXAMINER |
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DOUYON, LORNA M

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| ART UNIT | PAPER NUMBER |
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1751

DATE MAILED: 08/27/2002

16

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|------------------------------|--|
| Office Action Summary | Application No. 09/254,474 | Applicant(s) NITTA ET AL. | |
| | Examiner Lorna M. Douyon | Art Unit 1751 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-9, 13, 16, 17 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-9, 13, 16, 17 and 20-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 5, 2002 has been entered.
2. The suspension period of three months from March 22, 2002 has expired and the suspension of action has been terminated.
3. Claims 5-9, 13, 16-17, 20-24 are pending.
4. Claims 5-9, 13, 16 and 20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Barletta et al. (US Patent No. 4,919,847), hereinafter "Barletta".

Barletta teaches a process for preparing a high bulk density built particulate detergent compositions wherein 23 parts of linear dodecylbenzene sulfonic acid are mixed in "reactor"(51) and sprayed into the absorption zone wherein the acid impinges on swirling sodium carbonate particles, with the proportion of sodium carbonate to sulfonic acid being 77:23, the sulfonic acid

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(and the accompanying sulfuric acid which is 7%, see Example 1) is neutralized by the sodium carbonate and the effluent from the absorption zone is mixed and agglomerated with bentonite (corresponds to free-flowing aid) in a fluidized bed (see Example 3 under col. 9). By computation, the mole ratio of sulfuric acid to sulfonic acid is within the recited range. Barletta also teaches that the product leaving the absorption zone will normally comprise 5 to 40% of the anionic synthetic organic detergent and have a bulk density of at least 0.5 g/cc (see col. 6, lines 19-32; see col. 7, lines 14-20). The molar ratio of inorganic salt to anionic surfactant should inherently be within those recited because of overlapping proportions of the anionic surfactant. Barletta also teaches that the detergent acid to be neutralized may be in the form in which it results from sulf(on)ation of the lipophilic or hydrocarbyl base material, such as alkylbenzene, and normally, as when linear dodecylbenzene sulfonic acid is the detergent acid charged, the concentration of sulf(on)ic acid will be from 80 to 100%, with from 0 to 20% of sulfuric acid, 0 to 3% of free oil (unreacted or byproduct organic material) and 0 to 5% of water (see col. 5, lines 23-31). Barletta also teaches that a typical linear dodecylbenzene sulfonic acid may have from 85 to 95% of sulfonic acid, 5 to 9% of sulfuric acid and 1 to 2% of free oil with any water content thereof being held to no more than 1% (see col. 5, lines 31-35). Barletta also teaches that the agglomerates may be subsequently hardened by binder treatment, using sodium silicate or an organic polymer solution (see col. 6, lines 25-27; 35-37). Barletta teaches each of the limitations of the instant claims. Hence, Barletta anticipates the claims.

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5. Claims 5-9, 13, 17, 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barletta.

Barletta teaches the features as discussed above. Barletta, however, fails to specifically disclose the recited molar ratio of sulfuric acid to alkylbenzene sulfonic acid.

It should be noted that Barletta teaches in col. 5, lines 26-29 that the concentration of the dodecylbenzene sulfonic acid is from 80 to 100% with 0 to 20% sulfuric acid, hence, a *prima facie* case of obviousness exists because the claimed ranges “overlap or lie inside ranges disclosed by the prior art”, see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976; *In re Woodruff*, 919 F.2d 1575, 16USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05I.

6. Claims 5, 6, 13, 16-17, 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadsen et al. (US Patent No. 5,527,489), hereinafter “Tadsen”.

Tadsen teaches a process for preparing a high-density granular detergent product by dry neutralizing alkylbenzene sulfonic acid with a particulate mixture of a water-soluble alkaline inorganic material, for example, sodium carbonate, and a hydratable inorganic detergent builder in an apparatus which provides both mixing and shearing of the particulate mixture thereby forming the granular detergent product (see abstract). Tadsen also teaches that the alkylbenzene sulfonic acid can be made by the oleum sulfonation or $\text{SO}_3\text{-SO}_2$ sulfonation of alkylbenzene and contains from about 85% to about 98% sulfonic acid active, from about 0.5 to about 12% sulfuric acid and

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from about 0% to about 5% water (see col. 10, lines 4-11). Tadsen also teaches that after the complete addition of the alkylbenzene sulfonic acid, other optional detergent materials can be added to the resultant detergent granules which include free flow aid such as crystalline or amorphous alkali metal aluminosilicate (see col. 11, lines 18-29). The granular detergent composition made by this process has a bulk density of from about 600 g/l to about 1000 g/l (see col. 11, lines 43-58) and comprises from about 5% to about 50% by weight alkylbenzene sulfonate (see col. 3, lines 34-53). Tadsen, however, fails to disclose that the dry-neutralization step is carried out in the presence of 0.1 to 1.0 mol of sulfuric acid per mole of alkylbenzene sulfonic acid.

It would have been obvious to one of ordinary skill in the art to reasonably expect the molar ratio of sulfuric acid to alkylbenzene sulfonic acid to be within those recited because Tadsen teaches in col. 10, lines 6-8 that the alkylbenzene sulfonic acid material can contain from about 85% to about 98% sulfonic acid active and from about 0.5% to about 12% sulfuric acid.

Response To Applicants' Arguments

7. Applicant's arguments filed on March 5, 2002 have been fully considered but they are not persuasive.

With respect to Barletta, Applicants argue that Example 3 and claim 11 of Barletta appear to be using a wet-neutralization step and not a dry-neutralization step as required in the present claims.

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The Examiner respectfully disagrees with the above argument because of the following reasons. In col. 1, lines 23-27 Barletta teaches that the invention include modifications of the processes wherein powdered builder salts may be employed as neutralizing agents instead of aqueous neutralizing solutions. See also col. 2, lines 34-36 and col. 4, lines 61-68. In col. 7, lines 9-13, Barletta also teaches that in another variation of the invention the reaction vessel may be employed as a mixer for detergent acid and such may be sprayed onto neutralizing alkaline builder particles in the absorption zone. It is therefore clear that Barletta not only teaches wet neutralization but also dry neutralization.

With respect to Tadsen, Applicants argue that Tadsen recites broad ranges of contents of components without providing any guidance to the significance of the ranges and point to Tables 5-10 of the application (pages 82-90) for superior results when the molar ratios recites in the claims of the present invention are used.

The showing in Tables 5-10 have been carefully considered, however, the showing is not commensurate in scope with the claims. Hence, the rejection based upon Tadsen is maintained.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lorna M. Douyon whose telephone number is (703) 305-3773. The examiner can normally be reached on Mondays-Fridays from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta, can be reached on (703) 308-4708. The fax phone number for this Technology Center is:

(703) 872-9311 - for Official After Final faxes

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(703) 872-9310- for all other Official faxes.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center receptionist whose telephone number is (703) 308-0661.

August 26, 2002

Lorna M. Douyon

Lorna M. Douyon
Primary Examiner
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